

## **REMARKS**

### **Claim Amendments**

Claim 15 is amended to correct an obvious typographical error. Applicants submit that no new matter is added thereby.

Claim 21 is amended to more particularly point out that which Applicants regard as the invention. Applicants submit that no new matter is added thereby.

### **Rejection of Claims**

Claim 1, its dependent claims 2-20, claim 21, and its dependent claims 22-24 all stand rejected as obvious over the Sharma et al. '833 patent (hereinafter, "Sharma").

Specifically, the Examiner has cited Figure 4 of Sharma, together with the discussion at Sharma, column 8, lines 13-36, as disclosing all of the claimed features of the present invention, except for "a plurality of working paths." In regard to this last feature, the Examiner points to Figure 14 of Sharma as disclosing such a plurality. It should be noted that the Sharma specification discusses Figure 14 at column 17, lines 23-64.

### **Traversal**

Applicants respectfully traverse these rejections and beg for reconsideration in view of the remarks set out below.

The invention as recited in claim 1 is a method of routing demands in a network. The network is logically subdivided into a plurality of rings. It is significant that the subdivision is, specifically, logical, because this implies that the physical connectivity of the network does not inherently define the rings that result from such a subdivision. For example, there could be hundreds, or even thousands, of ways to subdivide a highly connected mesh network into rings.

The routing is carried out by assigning one of the resulting rings to each demand. (A "compound" demand may be decomposed into constituent demands, and a ring assigned to each constituent demand.) Each ring that is assigned is the union of a working path and a protection path for the demand. The routing of a demand is

completed by assigning one path along the ring as the working path and the other as the protection path. Thus, the working path and the protection path are assigned conjointly.

The invention as recited in claim 21 is a recovery method. When a demand is interrupted by a node or link failure, the demand is re-routed on a protection path. As currently amended, claim 21 recites that the protection path is selected such that it belongs to the same ring as was pre-assigned to the interrupted working path.

The network illustrated in Sharma, Figure 4, is configured as a plurality of single-wavelength rings (specifically, the figure shows three rings) which all share one common multi-wavelength link, denoted in the figure by reference numeral 80. These respective rings are not logically defined, but rather are physically defined by the network architecture. Except for the endnodes of link 80, which are shared by all three of the illustrated rings, the three rings are disjoint as to nodes. Therefore, demand between a source node on one ring and a destination node on a different ring may be required to traverse portions of two, or even three, different rings.

The discussion at Sharma, column 8, lines 28-36, concerns a method for recovery from failure of a specific link, namely, multiwavelength link 80. Upon notice of the link failure, demand which has been routed through link 80 may be re-routed through one of rings 70, 72, and 75.

The present invention as recited in claim 1 includes, *inter alia*, the following features, none of which are taught or even suggested by Sharma: (i) logical subdivision of the network into rings; (ii) assignment of a working path and a protection path to a demand when the demand is routed; and (iii) the requirement that each working path assigned to a demand must form a ring when combined with the protection path assigned to the same demand.

By contrast, Sharma *arguendo* teaches at most that in case of failure, the specific link 80 can rely for protection on the three physically defined rings that include it. Even with respect to demands that simply go from one end of link 80 to the other end of link 80, Sharma fails to suggest any ring assignment in a routing step. Much less does Sharma suggest any ring assignment when routing any more complicated demand.

Because Sharma fails to teach or suggest, *inter alia*, any of the three features of claim 1 that are listed above, Applicants submit that the invention as recited in claim 1, as

well as in dependent claims 2-20, is patentable over Sharma under the standard of 35 USC 103.

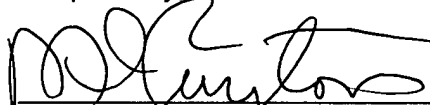
The present invention as recited in amended claim 21 also differs from anything taught or suggested by Sharma in important respects. As noted, Sharma fails to even suggest the assignment, during the routing process, of a ring that includes both the working path and the protection path. Much less, then, does Sharma contain any suggestion that during recovery, a protection path should be selected that belongs to the same ring as was **pre-assigned** to the interrupted working path.

For the above reason, Applicants submit that the invention as recited in claim 21, as well as in dependent claims 22-24, is patentable over Sharma under the standard of 35 USC 103.

Conclusion

Having responded to all points of objection and rejection, Applicants respectfully solicit allowance of all claims now pending in their application.

Respectfully,



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